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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,836	11/29/2001	Keiji Matsumoto	YOR920000819US2	2578

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IBM CORPORATION
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EXAMINER

CHOI, WILLIAM C

ART UNIT	PAPER NUMBER
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2873

DATE MAILED: 10/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/996,836

Applicant(s)

MATSUMOTO ET AL.

Examiner

William C. Choi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5 and 16 is/are allowed.
- 6) ☒ Claim(s) 6-8 and 15 is/are rejected.
- 7) ☒ Claim(s) 9-14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2002 & 13 November 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

DETAILED ACTION

Priority

Applicant's claim for domestic priority under 35 U.S.C. 119(e) is acknowledged. **Claim**

Claim Objections

Claims 8 and 9 are objected to because of the following informalities: in line 2 of claim 8, "transparenttt" should be changed to "transparent"; in line 3 of claim 9, "electrophoretic" should be changed to "electrophoretic". Appropriate correction is required.

Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 6-8 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Shimizu et al (U.S. 5,995,188).

In regards to claim 6, Shimizu et al discloses a structure which has connections running vertically (column 16, lines 46-49, Figure 8B, "66" & "76") through individual

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translucent dielectric layers (column 16, lines 49-51, Figure 8B, "67" & "71") using metal filled via holes (column 15, lines 11-15, Figure 8B, "66") which permit to make vertical connections through said individual transparent substrates from TFT's on a bottom plate (column 2, lines 34-67 and column 14, lines 62-63, Figure 6A, "61") to individual electrodes (Figure 8A & B, "69" & "75") in one or more color cell levels (column 16, lines 55-58, Figure 8B, "67", "71" & "73").

Regarding claim 7, Shimizu et al discloses wherein said color levels are filled with electrophoretic fluid (column 16, lines 49-50, re liquid crystal, Figure 8B, "67", "71" & "73") each color cell level in a pixel having a fluid to provide a different fundamental color (column 16, lines 55-58).

Regarding claim 8, Shimizu et al discloses wherein each color cell level can be individually addressed by a respective TFT (column 2, lines 44-67) and wherein said dielectric layers would inherently be transparent in order to display the underlying colors.

In regards to claim 15, Shimizu et al discloses a display (Abstract and Figure 8B) comprising: a plurality of color cells stacked on upon another to form a pixel (column 1, lines 5-8 and column 16, lines 55-58, Figure 8B, "67", "71" & "73"), which inherently would have a plurality of said pixels positioned adjacent one another in an array for displaying an image, since display devices inherently have multiple pixels. Shimizu et al further discloses a plurality of switches corresponding to respective color cells positioned below said color cells for applying a potential over a conductor to an electrode in said respective color cell to activate said color cell in response to said

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potential (column 2, lines 34-67), said conductor passing through and insulated from color cells of a pixel between said switch and said connected electrode in said respective color cell (column 3, lines 1-6 and column 14, lines 45-55).

Allowable Subject Matter

Claims 1-5 and 16 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach a combination of all the claimed features as presented in claims 1-5 and 16: a structure consisting of at least two layers of translucent dielectric as claimed, specifically wherein a metal electrode has at least a surface coated with a soldering metal or alloy, which soldering alloy upon alignment of patterns is joined together by heating into a structure joined together, the metal patterns on each layer forming electrodes and at the same time a spacer.

Claims 9-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach a combination of all the claimed features as presented in claim 9: a structure as claimed, specifically further including metal walls in each pixel on each color cell level to provide a ground potential and a respective central electrode activated or deactivated by an applied potential from a respective TFT to collect or disperse the electrophoretic fluid.

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The prior art fails to teach a combination of all the claimed features as presented in claim 10: a structure as claimed, specifically wherein the metal walls surround each pixel and have holes on each side of the pixel to permit forming a meandering path for fluid whereby all pixels can be readily filled with electrophoretic fluid or a liquid crystal (fluid) as claimed.

The prior art fails to teach a combination of all the claimed features as presented in claim 11-13: a structure as claimed, specifically wherein the one or more color cells include hollow spaces containing the individual electrodes, which are overcoated with a layer of dielectric to permit a potential large enough to collect or disperse electrophoretic fluid without discharging particles in the fluid.

The prior art fails to teach a combination of all the claimed features as presented in claim 14: a structure as claimed, specifically wherein the one or more color cells include hollow spaces containing the individual electrodes, at least one of which is made of transparent ITO, said hollow space containing colored electroluminescent material to provide an Organic Light Emitting Diode.

Prior Art Citations

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tanaka et al (U.S. 5,712,695) is being cited herein to show a display device meeting some structural limitations of that of the claimed invention. However, additional rejections would have been repetitive.

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Conclusion

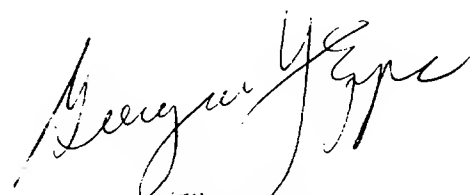
Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Choi whose telephone number is (703) 305-3100. The examiner can normally be reached on Monday-Friday from about 9:00 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached on (703) 308-4883. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

W.C

William Choi
Patent Examiner
Art Unit 2873
October 15, 2003


Georgia Epps
Supervisory Patent Examiner
Technology Center 2800